



Highlights of [GAO-04-513](#), a report to congressional requesters

### Why GAO Did This Study

Geothermal energy is heat from the earth that can be used to generate electricity. The Department of the Interior's Bureau of Land Management (BLM) has the primary responsibility for leasing public lands to private companies for geothermal development. In addition, the Secretary of each military department has the authority to develop geothermal resources on military lands and to keep the proceeds from the sale of electricity generated from those resources for use by the Department of Defense. The Navy's Geothermal Program Office, located at the China Lake Naval Air Weapons Station in California, manages and develops geothermal resources for the military. Currently, two geothermal power plants at China Lake are the only ones on military lands. A private company, which built, owns, and operates the power plants at China Lake, sells the electricity to a utility company and pays the Navy royalties on these sales as well as other types of compensation.

GAO was asked to provide information on (1) the Navy's annual revenues from the geothermal facility at China Lake, (2) how the Navy uses the revenues it collects from the geothermal facility, (3) the budget oversight the Navy provides programs funded from geothermal revenues, and (4) how the Navy's geothermal program differs from BLM's program.

[www.gao.gov/cgi-bin/getrpt?GAO-04-513](http://www.gao.gov/cgi-bin/getrpt?GAO-04-513).

To view the full product, including the scope and methodology, click on the link above. For more information, contact Jim Wells at (202) 512-3841 or [wellsj@gao.gov](mailto:wellsj@gao.gov).

## GEOTHERMAL ENERGY

### Information on the Navy's Geothermal Program

#### What GAO Found

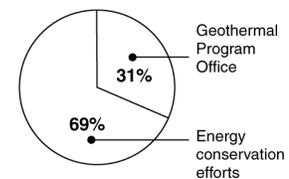
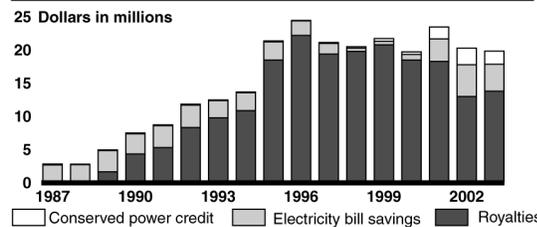
The Navy received three types of payments from the geothermal power plant operator at China Lake that totaled, on average, \$14.7 million annually between 1987 and 2003. During these years, the average annual royalty payment on the sale of electricity was about \$11.5 million, payments toward the base's electricity bill were about \$2.7 million annually, and bonus payments to the base for using less electricity than it had projected averaged about \$500,000 annually.

The Navy spent about two-thirds of its geothermal revenues on a variety of energy conservation projects, including solar energy systems and updated climate control systems, as well as other energy conservation programs. The Navy spent the other one-third of its geothermal revenues on its Geothermal Program Office, which oversees the activities of the power plant operator and assesses other military sites for geothermal development.

The Navy's Shore Energy Policy Board, which includes representatives of the Secretary of the Navy and the Chief of Naval Operations, oversees the budget for most of the programs funded from the geothermal revenues. Typically, at its annual meeting, the board reviews the draft budget for energy conservation programs, determines whether the funding levels are appropriate, and agrees on final allocations. The China Lake base's Renewable Energy Program office oversees the budget for the remaining geothermal revenues.

The Navy's geothermal program differs from BLM's program in significant ways. The Navy makes case-by-case decisions regarding geothermal development, invests in the initial exploration to identify geothermal resources, provides close oversight over geothermal production, and keeps all revenues for use by the military. In contrast, BLM uses a standard approach to geothermal development, does not invest in exploration, and does not provide the same level of oversight over resources in production. Also, 50 percent of BLM's geothermal revenues are shared with the state of origin, with the remainder paid to the Department of the Treasury. The Department of Defense provided technical comments on a draft of the report, which GAO addressed as appropriate. BLM said that the report implies that its program is not properly managed. GAO's report is focused on the Navy's program and does not evaluate BLM's program.

Total Navy geothermal revenues by source through December 31, 2003      Total Navy expenditures through December 31, 2003



Source: GAO analysis of Navy data.